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ABSTRACT

The U.S. Department of Education recently identified five essential components for excellence in early childhood teacher preparation programs. This dissertation proposal outlines a study to examine the 41 two- and four-year early childhood teacher preparatory institutions in Massachusetts, using these 5 "essentials for excellence." Those characteristics are: (1) interdisciplinary preparation for diverse early childhood settings; (2) a system that balances specialized preparation with realism and accessibility; (3) faculty with resources to prepare tomorrow's professionals; (4) structures and processes to support and sustain innovation; and (5) tools to define, recognize, and assess high quality early childhood teacher preparation. This proposal outlines the conceptual framework to be used in the study, examines the impact of educational reform in Massachusetts, and identifies two major research questions: (1) Do early childhood teacher preparatory programs in 2- and 4-year institutions of higher education support those elements which research has deemed essential for excellence? If not, which elements are supported and which are not? Where are there gaps? (2) What are the characteristics of promising models in Massachusetts? The proposal also examines events leading to the current national focus on early learning, including government-led education reforms, teacher testing, structural and process elements of early education and care programs, components of professional practice, and the role of early experiences in brain development. The methodology of the proposed study is detailed, along with data analysis methods, and limitations and significance of the study. Appended is a list of the Massachusetts early childhood teacher preparation programs. (Contains approximately 80 references.) (KB)

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Empirical Research, Education Reform and Current Practice in Massachusetts Early Childhood Teacher Preparatory Programs

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A Dissertation Proposal submitted to
The Doctoral Program In Higher Education Administration
University of Massachusetts Boston

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Many changes have occurred in teacher preparatory programs over the past several years, resulting in more rigorous admission standards, graduation requirements, and teacher certification tests. Often, these changes were made in response to government-led reforms which were determined by policy makers and others outside of academia. At the same time that federal and state governments demanded reform, researchers continued their quest to learn more about the human brain and effective strategies for teaching. Recently, researchers commissioned by the U.S. Department of Education have identified "essentials for excellence": what early childhood teacher preparation programs should do to prepare students for working in our diverse nation (U.S.DOE, 2000). This study will examine the forty-one 2- and 4-year early childhood teacher preparatory institutions in Massachusetts using these "essentials for excellence" as a lens for assessment. It is certain that some institutions are more successful than others in meeting the challenges of education reform and empirical research. Identifying *where* best practices are taking place and describing ***how*** innovation is succeeding will provide models for teacher preparatory programs to follow, as well as offer important insights to legislators about effective policy-making.

Conceptual Frame

The conceptual frame of this research is based on the paradigm outlined in New Teachers for a New Century: The Future of Early Childhood Professional Preparation (U.S. DOE, 2000). Authors Lora Fader, David Fernie, Diane Horm-Wingered, Marilou Hyson, Joan Isenberg, Rebecca Kanot, Naomi Karp, Millicent Kushner, Patricia Miller,

Alba Ortiz, Dougals Powell, James Scott, Marce Verzaro-O'Brien, and Lisbeth Vincent have identified five elements which they call "essentials for excellence in early childhood teacher preparatory programs." These elements address vital issues in the training of teachers of young children.

Five Essentials for Excellence in Early Childhood Teacher Preparation
1. Interdisciplinary preparation for diverse early childhood settings.
2. A system that balances specialized preparation with realism and accessibility.
3. Faculty with the resources needed to prepare tomorrow's professionals.
4. Structures and processes that will support and sustain innovation.
5. Tools to define, recognize, and assess high quality early childhood teacher preparation.
New teachers for a new Century: The Future of Early Childhood Professional Preparation, Page 7

Figure 1

An examination of each of these tenets will provide a clearer understanding of research-based requirements for exemplary early childhood teacher education.

Interdisciplinary preparation for diverse early childhood settings.

Interdisciplinary preparation must include health, education, the study of speech and language, family systems and family sociology, and the liberal arts and sciences. Knowledge of these areas is essential in providing effective educational strategies to meet the diverse needs of the children and families who are served by early childhood programs today (Horm-Wingerd, Hyson & Karp, 2000). In the *Early Childhood Longitudinal Study Kindergarten Class of 1998-1999*, researchers found that

kindergartners demonstrate differences in their cognitive skills and knowledge, social skills, health, and approaches to learning in relation to their characteristics, background and experiences. Children who did best in reading, math and general knowledge had mothers with a Bachelor's degree or higher, and children who were the lowest achievers had mothers who had not completed high school (U.S. DOE, 2000). From birth to age 8, physical, motor and linguistic development is more rapid than at any other time; and it is highly influenced by environmental supports (NEGP, 1998). Thus early childhood educators must be trained in each area which impacts early childhood development. This cross-training is fundamental in supporting excellence in early childhood teacher preparation. Often, however, teaching programs lack essential courses.

The following course work covers the range of "Requirements In The Study of Teaching And Schooling For The Initial Elementary Teaching Certificate" (NASDTEC, 1998): Social Foundations, Philosophy of Education, Introduction to American Education, Other Foundations, Alternative Ways of Organizing Schools, Curriculum Patterns and Alternatives, Nature of Students' Learning Process/Developmental Characteristics, Structure of the School as an Organization, Development of Basic Repertoire of Teaching Strategies, Methods of Teaching Elementary School Subjects, Methods of Teaching Reading, Study of Self (teacher) as Learner, Cultural Diversity, Technology in Teaching, Student Assessment, Restructuring and School Improvement, and Classroom Management. Most states require all but three of these courses: Restructuring and School Improvement, Cultural Diversity, and Alternative Ways of Organizing Schools (NASDTEC, 1998). Important courses not found in these

requirements include Cross-disciplinary Training, Family Issues, Speech and Language, or courses specific to very young children.

A system that balances specialized preparation with realism and accessibility.

In addition to the interdisciplinary training needed to prepare early childhood teachers, today's teacher preparatory programs must concentrate on the recruitment and retention of minority students who may not have the educational and financial resources necessary to attend college (Horm-Wingerd, Hyson & Karp, 2000). We have a diverse population of children and families in need of early care, yet our teaching population is relatively homogenous. In 1997 approximately 86% of teachers in public schools were Caucasian while more than 32 percent of the students in K-12 schools were members of minorities (U.S. DOE, 1998). Immigrants now make up 10 percent of the nation's population, nearly triple the percentage in 1970 (NEA, 1999). Considering that half of all new immigrants are Spanish speaking, and Hispanics have the highest school dropout rate, it is clear that teaching and assessment must adapt to meet this challenge.

If teacher preparatory programs recruit and graduate minority students who are successful in passing state teacher exams, employment opportunities should be abundant. In 1998 there were more than 1,025 teacher education programs in the U.S., graduating about 100,000 potential teacher candidates each year. The U.S. Department of Education (1998) estimates that this supply will generate approximately one-half of the teachers needed to fulfill the demand for teachers over the next ten years.

Some state models have been successful in targeted recruitment of top students of all races to teacher education programs. Using these models, the Department of Education has described successful recruitment efforts:

- Recruitment of potential teachers begins as early as middle school and often through organized groups and activities.
- Pre-collegiate recruitment programs provide substantial information about careers in teaching for candidates.
- Current master teachers are directly involved in the recruitment and career counseling of potential teachers.
- Policies focus on recruiting future teachers from under-represented minority groups and from students with special interest in the fields where there are great shortages. State and institutional policies provide incentives for undergraduates to teach in these fields for a specified time after college.
- Programs that recruit potential teachers from other careers combine both course work and supervised classroom experiences, either before the recruits are placed in classrooms or during their first year or two of teaching, and provide access to financial aid (DOE, 1998)

Working with diverse populations also requires core knowledge of multicultural education. Students must be taught to confront their own biases as part of teacher preparatory programs. Pacific Oaks College in Pasadena, California, provides an outstanding model which integrates issues of race, class, and social justice in coursework, practicum experiences, faculty program planning and development, faculty relationships with one another, and in competencies for all early childhood graduates (Powell, 2000). This model is especially important in light of the fact that most states do not require courses concerning cultural diversity (NASDTEC, 1998), and that whites typically perform higher than people of color on cognitive tests (Jencks & Phillips, 1998).

Perhaps test results are linked to the ways in which children are taught and the biases of their teachers.

Faculty with the resources needed to prepare tomorrow's professionals.

In order to properly prepare students, faculty may need to expand their current role. To provide interdisciplinary training in the areas that impact early learning, college instructors must link with schools and agencies, work with faculty from other disciplines, involve families and community professionals in the teaching process, and be actively involved in state education policy and advocacy (Powell, 2000). Arizona State University has an exemplary teacher preparatory model that depends on collaboration between and across community programs and university departmental structures to provide a more broad-based training. The courses model and encourage cross training and provide students of any discipline the opportunity to participate in coursework and practical experiences with members of other disciplines (Powell, 2000). Unless this model is embraced and rewarded on the institutional level, it would probably be difficult to duplicate -- given the traditional teaching/research/service demands on faculty at 4-year institutions and the trend to increase teaching loads at 2- year institutions.

Structures and processes that will support and sustain innovation.

One way to support innovative reforms is through the collaboration between individuals, departments, settings and professional groups. The University of Cincinnati exemplifies the importance of relationships in long-term, comprehensive reform of teacher preparation. Students participate in a five-year program which integrates coursework,

clinical and field experiences, and culminates in a yearlong teaching internship in a Professional Practice School. The practical experience includes working with children from birth – 8 in a variety of settings designed for infants, toddlers, preschoolers, kindergartners, and children in the primary grades. During the fifth year, internship students teach half time while receiving extensive monitoring, support, and assessment by experienced teachers serving as teacher educators (Kantor et. al, 2000).

The National Association for the Education of Young Children defines early childhood as from birth – age eight (NAEYC, 1998); however, unlike the University of Cincinnati, most 4-year teacher preparatory programs offer "early childhood" courses and field experiences which focus on state licensing requirements for Kindergarten- grade 3 or Nursery- grade 3 with no attention to the developmental and educational needs of infants and toddlers (Isenberg, 2000). Community colleges are the more frequent providers of coursework which focuses on young children.

Because teachers teach as they were taught in schools and colleges and pass their ways along to their students (Goffin & Day, 1994), field work in day care is problematic. Students need to see their teachers teaching young children; however, in community colleges and 4-year college programs, practicums are most often supervised by a host-teacher who works in the school or daycare. Because the majority of people who work in daycare do not have degrees, it is likely that day care field placement supervisors have an educational background less extensive than or comparable to that of the student

teacher (Isenberg, 2000). As Chagani (1996) concludes, increased access to high caliber early learning programs is required to improve student teaching experiences.

Similarly, research emphasizes the importance of practical teaching skills being learned in tandem with classroom theory (NASDTEC, 1998). The extended process of theory in practice allows for an authentic ongoing assessment of teaching in a manner that enhances the quality of education at two levels: for schools of higher education and for the host schools of young children (Darling-Hammond, 1999). The National Commission for Excellence in Teacher Education (1985) recommends that all teacher education classes should accompany student teaching or internships, with early classes and fieldwork anticipating what is to come, and later classes and experiences expanding what came before. The emphasis on professional practice is further reinforced by the recommendations of The Holmes Partnership, a consortium of research-based institutions. Its proposed teacher preparation reform emphasizes links between universities and schools by using public schools as professional practice sites (DOE, 1998).

A sharp contrast between theory and practice concerning field experience, however, exists in actual state teacher preparatory requirements. Of twenty-seven states listed in the National Association of State Directors of Teacher Education and Certification manual (1998) which use the PRAXIS Elementary or Early Childhood exams, twenty-two require some type of field experience (as little as two hours; up to as many as 300 hours), and five states do not require any. All twenty-seven states require

student teaching, though fourteen have no specific requirements to evaluate student teachers and four states have no designated evaluators (NASDTEC, 1998).

Tools to define, recognize, and assess high quality early childhood teacher preparation. Assessment tools must be used consistently across early childhood teacher preparatory programs which extend to interdisciplinary professionals, such as special educators, bilingual educators and others. Well-designed research is needed to document characteristics of good programs, attitudes towards new programs, and the impact of programs on teacher's practices and on children's learning and development (Isenberg, 2000). There are tools and standards in place; however, accrediting agencies vary widely on their use.

Of the 1,300 higher education teacher preparatory programs in the U.S., only 500 are accredited by the National Council for Accreditation of Teacher Education (NCATE). This number is significant because the 500 colleges accredited by the NCATE account for approximately two thirds of all education graduates annually (Gitomer et al., 1999). Students who attend NCATE approved programs were found to have somewhat lower SAT or ACT scores than teacher candidates at non NCATE schools, however, their state licensure passing rates are higher (Gitomer et al., 1999).

Four- and five-year institutions which offer early childhood teacher preparatory programs and are accredited by the NCATE undergo a program review by the National Association for the Education of Young Children (NAEYC). Serving as the "learned

society" in early childhood professional preparation for NCATE, NAEYC reviews early childhood program folios, which are descriptions of how a program meets the "NAEYC Guidelines for the Preparation of Early Childhood Professionals" (NAEYC, 1996). The domains addressed by the guidelines include Child Development and Learning, Curriculum Development and Implementation, Family and Community Relationships, Assessment and Evaluation, Professionalism, and Field Experiences. They are currently being revised to include more performance-based standards. The guidelines are organized around a clear framework, which helps faculty to coordinate their perspectives into a coherent program that includes interdisciplinary professionals (Isenberg, 2000).

The differences between state early childhood teaching certification standards add to the challenge of consistency. Sixteen states do not have an early childhood certification or endorsement, ten states have an early childhood endorsement which is an add-on to an elementary education certificate (it requires additional coursework which varies from state to state), and of the states which do have freestanding specialized early childhood certificates, there are nine different definitions of the scope of early childhood (Isenberg, 2000).

PROBLEM TO BE STUDIED

Education reform has had a vast impact on Massachusetts' early childhood teacher preparatory programs. Changes made by the Board of Higher Education for entrance requirements and tuition in 2- and 4-year colleges are impacting which students are accepted by education departments. Community Colleges, on the other hand, have open admissions so that anyone with a high school diploma or the equivalent may attend. Students who want to attend a 4-year state college in Massachusetts are required to have a high school grade point average of 3.0 (Fall 2001) and SAT scores of 920-1120 [or SAT scores of 950-1120 if the grade point average is between 2.0 and 3.0] (BHE, 1998). No student with a GPA below 2.0 is accepted and remedial courses are not available to more than 5% of the student body. Students who do not meet the required SAT scores and or who are in need of remedial courses are counseled to attend community colleges (BHE, 1998).

Testing and increasing college grade point average requirements are also changing the population who is able to remain in and graduate from education programs. Students majoring in education at Massachusetts 4-year state colleges must have a double major, with the second major in a content area, as defined by the Massachusetts Department of Education (MDOE, 2000). A minimum GPA of 3.0 is standard for student teaching requirements as well as successful completion of portions of the teacher test (BSC, 2000). Students who are not successful on the teacher test and or do not meet the minimum GPA are generally steered towards other majors (BHE, 1998).

COMPARISON OF STANDARDS IN 2- AND 4- YEAR STATE COLLEGES IN MASSACHUSETTS		
	4 Year State Colleges	2 Year Community Colleges
Admission	SATs of 1200 or grade point Average of 3.0 in college preparatory courses Students must have a double major, early childhood education and liberal arts or science.	Open-admissions. High school diploma or GED. Students must pass a high school level reading, writing and math placement exam, or take remedial courses prior to taking courses in their major.
Retention	Students must receive a passing score on the communication and literacy portion of the Mass. Education Certification Test. Students must maintain a minimum cumulative grade point average of 2.5.*	Student must maintain a minimum cumulative grade point average of 2.0*
Accountability	Institutions must report the MA teacher test results of their students to the state.	Day care teachers are not tested.
* Cumulative grade point requirements vary by institution.		

Figure 2

Community colleges, which are the primary providers of education for day care teachers, offer lower tuition rates and easy access. To date Massachusetts community colleges do not incorporate teacher tests as part of their curriculum, as there are no testing requirements for teachers who work in daycare. Also, students who study early childhood education in community colleges are not required to have a double major and are not required to maintain a 3.0 GPA. On the other hand, the demands on community college faculty are growing. Beginning in the 2000-2001 school year, full-time

instructors in Massachusetts' community colleges will have an increased workload of five courses per semester (MTA, 2000). Certainly this load will make interdisciplinary training, networking beyond the classroom, and professional development more challenging while giving faculty less time to fulfill these goals.

Though community colleges are not affected by it, legislation which requires state reporting of teacher licensure exams from individual institutions, as well as comparative descriptions of teacher licensure assessments, state passing scores, and the pass rate and rank by institution (Otuya, 1998) increases performance pressure on four-year institutions. This kind of legislation must lead to changes in resource allocation and curriculum innovation in teacher education programs; Massachusetts institutions which have less than an 80% teacher test success rate could lose their authority to offer teacher preparatory programs. Too, this reporting data will probably influence prospective students in their college selection.

Changes in standards, as well as different standards for 2- and 4- year teacher preparatory programs, then, lead us to an examination of the ways in which education departments are changing to meet the new requirements, and an assessment of whether the changes truly support education reform.

RESEARCH QUESTIONS

The community college is the primary source of training for teachers in the private child care centers, family childcare, and Head Start. Teachers in public kindergarten, public preschool, and Early Intervention are usually trained in four-year colleges and universities (CPR, 2000). The primary focus of this research is to examine *how* education reform has impacted teacher preparatory programs in both 2- and 4-year colleges. Current practices respond to state teacher tests, changing admission standards and curriculum frameworks for PK-12. Have they been designed to narrow the gap between theory, practice, and education reform? Why are some colleges successful innovators and others are not?

Using the five elements *Essential for Excellence in Early Childhood Teacher Preparation* as the conceptual frame, it is the intent of this research to answer the following questions: 1) Do early childhood teacher preparatory programs in 2- and 4-year institutions of higher education support those elements which research has deemed essential for excellence? If not, which elements are supported and which are not? Where are there gaps? 2) What are the characteristics of promising models in Massachusetts?

LITERATURE REVIEW

An exploration of the literature surrounding early childhood teacher preparatory programs must include a discussion of several elements of education reform as well as an exploration of relevant empirical research. An historical overview of the events which led to the current national focus on early learning will broaden our perspective on these complex issues.

EARLY CHILDHOOD TEACHER PREPARATORY PROGRAMS Areas of Focus for Researching Factors Influencing Early Childhood Teacher Preparatory Programs	
Education Reform	**Empirical Research**
• Government-led Education Reforms • The Role of Public Schools in Early Learning • College Courses & Graduation Requirements • Teacher Testing and Certification	• Structural & Process Elements • Components of Professional Practice • Early Experiences and Brain Development

Figure 3

Government-led Education Reforms

Concern about the nation's declining educational performance on standardized tests by high school students in the 1980s and its potentially devastating impact on the nation's economic future led government officials to sponsor the development of national education performance goals. First brought to national attention in 1991 by President George Bush and the state governors (including then-Governor Bill

Clinton), the National Goals, known as the America 2000 program, were established to drive educational improvement in all states (Lewit & Baker, 1995; National Education Goals Panel 1999). The Goals address educational standards for students from preschool age through grade 12.

The eight National Education Goals include:

1. Ready to Learn (all children will arrive at school ready to learn)
2. School Completion (students will graduate from high school)
3. Student Achievement & Citizenship (reading-4th grade, writing- 8th grade, math-4th grade, science- 8th grade)
4. Teacher Education & Professional Development (for all teachers to acquire the knowledge and skills necessary to prepare students for the next century)
5. Mathematics and Science (competencies for all students)
6. Adult Literacy and Lifelong Learning (for students and parents of students)
7. Safe, Disciplined, and Alcohol-and Drug-free Schools, and
8. Parental Participation (NEGP, 1999).

Each goal impacts students and teachers at all grade levels. The goals have been reflected in most states with mandated curriculum framework and teacher tests. The goals also impact teacher preparatory programs, on which our nation relies to produce skilled teachers.

School readiness, then -- the preparedness of children to learn what schools expect or want them to learn -- is a cornerstone of these education reforms. According to government studies, students are not entering school ready to learn in spite of education reforms that have been in place for over 10 years (Lewit & Baker, 1995). The America 2000 initiative identified school readiness as its first goal; the objective of this goal was that "all children will have access to high-quality and developmentally appropriate preschool programs that help prepare children for school" (National Education Goals Panel, 1999).

This government focus on preschool as a preparatory program for school readiness is in sharp contrast to past practices. U.S. authorities did not become involved in childcare until the 1940s, when mothers were needed to work in defense industries, and the Lanaham Act (1943) created federally sponsored childcare centers which allowed mothers to work. These centers remained in operation after the war to provide jobs for the vast numbers of unemployed teachers, social workers, and nurses. From the 1950s through the 1990s, government sponsored day care continued as a social welfare system, to strengthen the family life of the poor and to move people from welfare to work (Cahan, 1989).

The relatively new government focus on young children has proven to be a good idea. Research has shown that good, research-based early learning programs enhance later achievement and social adjustment, reduce the likelihood of grade retention, increase graduation rates, and reduce placement in special needs classes (Barnett, 1995;

Entwisle, 1995). Katz, (1997) has shown that (1) early experience has lasting effects, (2) early childhood is the critical period of neurological development, (3) all children enter early childhood programs with active minds, and (4) early childhood is the critical period in social development. Additionally, early childhood education contributes to children's intellectual development, social and emotional competence, and improved opportunities for health (Bredekamp & Copple, 1996).

If access to high quality preschool experiences is required for school readiness, how successful is the U.S. in providing these experiences? In 1995 (CQCOST) and 1997 (Kagan & Cohen) studies showed that of every 10 center-based preschool programs, 2 provided high-quality care, 7 provided mediocre care and 1 jeopardized the health and safety of children. A 1998 survey conducted by the National Center for Early Development and Learning of 3,600 teachers nationwide reported that 52% of children have a successful entry into kindergarten and 48% have a moderate or serious problem (NCEDL, 1998).

In response to the need for early childhood teachers, 271 four-year and 183 two-year institutions of higher education now offer degree programs for students interested in early childhood education (US News on-line 5/00). In Massachusetts alone, there are 21 four- year institutions and 20 two-year institutions which offer programs in early childhood education (US News Online, 2000). Nationally, there are more early childhood programs offering Associate degrees (57%) than there are Bachelor's degree programs (40%). Students who graduate with a Bachelor's degree are most likely to

teach in kindergarten and elementary settings, and students who graduate with an Associate degree are most likely to work with infants, toddlers, and preschoolers (CPR, 2000). There is also a disparity in salaries; the average salary for a public school teacher in Massachusetts is approximately $30,000 and the average annual salary for Massachusetts's daycare workers is $17,326.40 (Annie E. Casey Foundation, 1998). The crucial question is whether community colleges are producing teachers who are skilled and prepared to meet the challenges of education reform in the daycare classroom. The federal Head Start program is counting on it; it has mandated that 50% of program staff must have an Associates degree by 2003 (CPR, 00).

Yet another result of government-led education reform, Head Start was founded in 1965 by President Kennedy and President Johnson as "a weapon in the war against poverty" (Cahan, 1987). Head Start is a comprehensive child development program for low-income families that provides services in four basic areas: education, health, parent involvement, and social services. By 1998 approximately one-third of eligible children were enrolled in Head Start (Kirchhoff, 1998), and the program was criticized for not reaching more families and for weakness in the areas of curriculum and teacher training. The Clinton administration has allocated funding to meet the Head Start goal of enrolling 1 million children by the year 2002, and the bulk of the new funding is for teacher training (Kirchhoff, 1998). Hopefully, Head Start's move toward requiring Associate degrees for daycare teachers will help to raise national standards for preschool teachers.

The Role of Public Schools in Early Learning

The 1998 Kids Count Data Book (Annie Casey Foundation, 1998) reported that in 1995, 65% of children under age 6 in Massachusetts were living with working parents. There is no doubt that in the past 5 years this percentage has increased. In Massachusetts in 1998-1999, private child care centers served the largest number of children ages (0-5); followed by public school kindergarten programs, family childcare, public school preschool, Early Intervention, and Head Start (DOE, 1999). Who is paying for the services? Massachusetts parents pay approximately 65% of total costs for early education and care, with state and federal funding investing $483 million in the agencies which oversee these services (MDOE, 1999). State and federal funding for public schools, kindergarten through third grade, is approximately $1.38 billion (MDOE, 1999).

The demand for full-time childcare services in every state was greatly increased by the 1996 Welfare Reform Law (CCCW, 1998) which required many parents who formerly qualified for welfare benefits to work full-time. Because of the need for and the benefits of preschool education, public schools have been steadily expanding their role in early education. In 1980, there were only 10 states with pre-kindergarten initiatives (Coeyman, 1998). In 1991, 15% of all school districts offered classes for 4-year-olds in American public schools (Boyer, 1991). Twenty-one states increased aid for pre-kindergarten or Head Start in 1997 (Kirchhoff, 1998) and in 1998, 30-31 states had some form of pre-kindergarten program (Coeyman, 1998).

For the study entitled "Almost a Million Children in School Before Kindergarten: Who is Responsible for Early Childhood Services?" (Clifford, Early, & Hills, 1999), researchers at NCEDL used data from the 1995 National Household Education survey (U.S. Department of Education) to gather information about the role of public school in the education of pre-kindergarten-aged children. They identified three federal programs (Individuals with Disabilities Education Act, Head Start, Title 1) and numerous state programs, which together provide services for about 900,000 pre-kindergarten children in public schools. The researchers concluded that consensus is required on three basic issues: (1) who has responsibility for governing early childhood services; (2) who has responsibility for financing these services; and (3) how resources for serving children can be utilized to provide services that will meet the safety and developmental needs of children and the scheduling needs of families. But is the need for these programs supported by research or politically motivated?

The Cato Institute believes that school readiness is important, and can best be cultivated without government intervention. According to Darcy Olsen, American fourth-graders outperformed nearly all of their universally pre-schooled European peers in reading, math and science. She concludes that American students start school as ready to learn as their European counterparts without the need for public preschool. Of course, American students' performance declines as they move up through grade school: in 8th grade their international scores go down and in 12th grade they plummet. Olsen partially attributes the declining test scores to our nation's severely troubled public schools, and asks, "*What good would it do to introduce children to a troubled public*

system earlier in their lives?" (USA Today, 12/23/99). This perspective suggests that whether or not children are ready to learn, schools may not be ready for children.

College Courses and Graduation Requirements

An examination of core courses and graduation/completion requirements in early childhood teacher preparatory programs at Massachusetts Community colleges will help us to gain a clear understanding of the content of these programs.

The Bachelor of Science in Education/Early Childhood Education program at Bridgewater State College has been approved by the Massachusetts Department of Education to prepare students to meet Commonwealth of Massachusetts teacher certification requirements for a provisional "Teacher of Early Childhood Education (Pre-K-3) with advanced standing." Bridgewater's criteria for admission to professional education programs, which includes early childhood education, are consistent with those of other Massachusetts 4-year state colleges. Highlights of the admission requirements include selecting a major in early childhood education as well as a major in the liberal arts or sciences, a cumulative average of at least 2.5, and beginning September 1, 1999, students must also submit proof of having obtained a passing score on the Communication and Literacy portion of the Massachusetts Educator Certification Tests required for Massachusetts teacher certification under the Education Reform Act of 1993. Required early childhood education core courses include: The Basics of Early Childhood Education; Elementary Art Methods; Science and Social Studies Inquiry for the Young Child; Reading Development for the Young Child; Language Arts for the Young Child;

Developmental Mathematics for the Young Child; Planning and Programming for the Young Child; Supervised Teaching in Public Schools (Early Childhood); and Supervised Teaching in the Preschool. This supervision includes 80 hours of prepractica experience, and a full time, semester-long student teaching experience under the joint supervision of college supervisor and a cooperating practitioner (Bridgewater State College, Undergraduate/Graduate Catalog 1990-2000).

The Associate in Science degree program in Early Childhood Education at Northern Essex Community College exceeds the academic requirements for "Lead Teacher" in daycare as currently specified by the Massachusetts Office for Children. The admission requirements for this program, which are consistent with those of other Massachusetts Community Colleges, include letters of reference and a personal interview with the Curriculum Coordinator. Admitted students are required to take placement exams in writing, reading, and math. If students test below the tenth grade level they are required to take remedial courses to give them the skills to succeed. While they are taking remedial courses, however, students may take other college level courses such as electives, in order to remain full-time students and retain financial aid. Required early childhood education core courses include: Early Childhood Education: Theory & Practice; Enhancing Creativity in Early Childhood Curriculum; Practicum I; Language/Reading Development in Early Childhood; Practicum II; Expressive Learning Activities in Early Childhood Curriculum; Seminar in Philosophy ECE; Practicum III; and Math/Science for EC Curriculum. Students are required to earn a total of 66/68 credits and maintain a minimum cumulative GPA of 2.00 in their early childhood courses

to graduate with an Associate in Science in Early Childhood Education. Practicum I is a one-semester course, which includes 1 class hour and 8 practicum hours per week. Practicum II is a one-semester course, which includes 1 class hour and 12 practicum hours per week. Practicum III is a 1-semester course consisting of 16 practicum hours per week. The minimum qualifications for the on-site teacher who supervises students during their practica in the daycare center is "Lead Teacher" as defined by Office of Child Care Services (four courses in early childhood education and a minimum of 36 months work experience).

This program, taken with appropriate electives, satisfies the requirements of the Commonwealth Transfer Compact. The Compact allows qualified graduates of community colleges to transfer all of the credits earned for their Associate degree to a Bachelor's degree program in a four-year state college (NECC, 2000). The community college program offerings had to be reviewed and approved in order to be accepted into the Commonwealth Transfer Compact. Because each of the community colleges has gone through the review process and is part of the Compact, there are no major differences in the early childhood education programs of the various community colleges.

The course offerings in the 2- and 4- year state colleges are similar enough that students have the option of transferring credits between institutions. The differences lie in admissions requirements, major requirements, and graduation requirements. After completing their degrees, graduates' next line of distinction is teacher testing and certification.

Teacher Testing and Certification

Certification of teachers is the area of higher education over which the state has greatest control (Goodlad, Soder, & Sirotnik, 1990). Because there is a wide disparity between the academic skills and knowledge required of teachers in content areas and those in elementary or early childhood education, when approaching issues that refer to teachers, it is important to identify which group of teachers is being referenced (Gitomer et al., 1999). This research refers to early childhood teachers certified to teach in public schools and early childhood teachers certified to teach in daycare. Moreover, because policies and licensure procedures vary widely from state to state, in addressing teacher certification issues, it is crucial to ground the discussion within the context of individual states (Gitomer, Latham, & Ziomek, 1999).

In 1997, six states did not use a test for teacher certification and had no plans to do so in the near future (NASDTEC, 1998). The states which do require teacher exams vary considerably on teacher certification standards. States establish individual standards for which test is used (if any), certification test passing cutoff points, test re-take policies, and which other states' teacher certifications they recognize (Gitomer, Lathan, & Ziomek, 1999). Even states that use the same teacher test have different standards. The Professional Assessments for Beginning Teachers (PRAXIS) Series, the successor to the National Teacher Examinations, is the examination of choice for the majority of states.

The PRAXIS Series is national in scope, yet customized to meet the individual licensing needs of particular states (Charting Professional Growth, ETS Teaching and

Learning Division, p.8.). The passing scores established for the Early Childhood Education PRAXIS exams by 15 states showed a 120-point range of scores, with the lowest passing score of 480 for Ohio and the highest passing score of 600 for both Florida and Oregon. Based on 6,804 examinees, the average test performance range is 600-700 (ETS, 1998-99). Thus, the lowest score within the average performance range is the same as the highest cutoff score and 120 points more than the lowest acceptable cutoff score. These results could indicate that the exam is extremely challenging and therefore requires a low cutoff score or that the exam is not challenging enough based on the high average passage rates.

The theory of teacher testing is simple: better scores equal brighter students, who will be better teachers. The reality, however, is much more complicated. A preliminary review of Massachusetts state certification exam results, in the category of early childhood education, indicates a disparity between what graduates learned in higher education and what they needed to know to pass the certification test (MDOE, 1999). Opponents of the exam question its value as a predictor of success in the classroom as well as whether the literature supports such testing (Markunas & Johnson, 1998). The validity of the tests has been questioned since they were incorporated two years ago and now the contract for the test developer, National Evaluation Systems, has not been renewed in Massachusetts. Not knowing which teacher test will be administered is causing a great deal of upset in colleges which include test preparation in their curricula. If students do not pass the teacher test, they will not be certified to teach in Massachusetts. It is crucial to understand successful strategies for preparing students to

pass these exams, whatever the exams may be. And if the exams are a true measure of one's ability to work effectively with young children, should they be incorporated in all early childhood teacher preparatory programs, including community colleges?

Education reform has directly impacted the role and preparatory needs of preschool teachers in Massachusetts. Yet while it has dramatically increased the standards and accountability for public school teachers and their teacher preparatory institutions, education reform has not changed the minimal educational standards for those who work in childcare or the standards to which community colleges are held accountable. The widening gap between the standards for public school teachers and for day care teachers, and between their respective teacher preparatory programs challenges the foundation of the National Goals. If increasing teaching standards to reform public education was deemed necessary, then how can preschool education be improved without increasing standards for day care teacher training programs in community colleges? Will teaching in day care now become an option for students who wanted to teach in public school but couldn't pass the state teaching exam?

A review of the certification/licensing requirements of both the Department of Education (which oversees public school) and the Office of Child Care Services (which regulates private daycare) will also inform our study. Students who graduate with a Bachelor's degree from early childhood teacher preparatory programs, such as Bridgewater State College, qualify to apply for a Provisional Certificate in Early Childhood Education [Pre-K-3] with Advanced Standing. The requirements for this certificate include:

1. A Bachelor's degree with a liberal arts and sciences or interdisciplinary major.

2. Successful completion of 24 semester hours of course work or other experiences, which address the "Subject Matter Knowledge Competencies" defined by the Department of Education.

3. Successful completion of 18 semester hours of course work, including pre-practicum field experience, or other experiences directly related to the "Common Teaching Competencies" defined by the Department of Education, which approximate a college minor of at least 15 semester hours.

4. Successful completion of a 300-hour practicum demonstrating ability to teach in the area of the certificate, on the basis of the defined competencies; 150 hours of the practicum must be at the Pre-K level, 150 hours must be at the K-3 level, and at least one of these segments must be in a setting which includes young children with special needs for part of the school day (MDOE, 00).

The "Subject Matter Knowledge Competencies" defined by the Department of Education require teachers of early childhood education to demonstrate knowledge of:

a. the subject matter of early childhood education; early literacy, children's literature and the language arts, the arts, mathematics, science, social studies, health and physical education, and how to adapt the curriculum for learners with special needs;

b. the implications of disabilities for learning the subject matter of early childhood education;

c. the theories of active learning, including learning through play, as they apply to children with and without special needs, as well as to the subject matter of early childhood;

d. the relationships among the disciplines taught in early childhood education, the stages and characteristics of child development, and the ability to apply this knowledge through an integrated curriculum to children with and without special needs (MDOE, 00).

In order to be certified through the Office of Child Care Services to be "Lead Teacher for Preschoolers" (OCCS, 1999), a candidate must be at least 21 years of age and

meet one of the following sets of requirements for education and experience (at least nine months of work experience or one practicum must be with preschoolers):

A. High School diploma or equivalent; and 12 credits in at least four categories of study, except Day Care Administration, including three credits in Child Growth and Development, and two credits in Planning programs, Curriculum or Classroom Management; and 36 months of work experience.

B. High School diploma or equivalent; Child Development Associate (CDA) Credential in Center Based, Home Visitor, or Family Day Care setting with a preschool endorsement; and three credits in Child Growth and Development; and 27 months of work experience.

C. Associate degree in Early Childhood Education or a related field of study, and 18 months of work experience.

D. Bachelor's degree in an unrelated field of study and 12 credits in at least four categories of study, except Day Care Administration, including 3 credits in Child Growth and Development, and 2 credits in Planning Programs, Curriculum or Classroom Management; and 18 months of work experience.

E. Bachelor's or advanced degree in Early Childhood Education/K-3, Teacher of Young Children with Special Needs Certification from the Department of Education, or a Bachelor's degree in a related field of study and nine months work experience.

F. Alternative Early Childhood Training Program; and 12 credits in at least four categories of study, except Day Care Administration, including 3 credits in Child Growth and Development, and 2 credits in Planning Programs, Curriculum or Classroom Management; and 27 months of work experience.

The Office of Child Care Services categorizes early childhood education courses under the following titles:

Child Growth and Development, Birth-Eight Years
Planning Programs and Environments for Young Children
Curriculum for Early Childhood Settings
Child and Classroom Management
Advanced or Specialized Early Childhood Education or Development
Children with Special Needs, Birth-16 years
Infant and Toddler Development, Care, and/or Program Planning
Health and Safety in Early Childhood
Families and Community

Practicum is defined by the Office as the successful completion of a minimum of 150 hours, over at least an eight week period, of direct work with the appropriate age group, supervised by personnel from an institution of higher learning or an alternative early childhood training program, with at least three site visits, including conferencing, and placement with a lead teacher qualified staff member. Responsibilities of the student intern include program planning, parent relations, and management of the whole group for a portion of the placement. One practicum may substitute for nine months of work experience (OCCS, p.26).

A comparison of the admission, retention and degree requirements between 4-year state colleges and community colleges in Massachusetts, and the teacher certification requirements of the Department of Education and the Office of Child Care Services suggests that universal education reform at the preschool level is unlikely without consistent standards for all early childhood teacher preparatory programs.

Structural and Process Elements of Early Education and Care Programs

In the publication *Setting a Course for Early Education and Care in Massachusetts: Using Data to Guide Policy Development* (1999), the Massachusetts Department of Education discusses the "quality" of early education and care programs for young children in terms of structural and process elements. Structural elements are

defined as variables that can be regulated by an outside force, and process elements include tangible and intangible experiences in the environment. The following table represents the structural and process elements of high-quality programs, as identified by the Connecticut Board of Education (1988).

Structural Elements	**Process Elements**
Class size	Learning environment
Staff-to-child ratios	Curriculum
Teachers' qualifications & training	Interaction between teacher/child
Staff salaries/benefits	Parent participation
(Regulated by Policy Makers)	(Core focus of Teacher Education)

Figure 4

The Report of the Panel of Child Care Policy, *Who Cares for America's Children? Child Care Policy for the 1990* (1990), shows clearly that policy makers can more readily regulate structural variables. States have the authority to regulate class size, staff/child ratios, and teacher qualifications and training. The state of Connecticut has even established teacher's salaries through legislation (DOE, 1999). Process elements, however, are much more difficult to regulate. In reviewing the required courses for a degree in early childhood education in Massachusetts 2- and 4-year colleges, it becomes apparent that process elements are the core of these programs (BSC, 1999, NSCC, 1999, MBCC, 1999, BHCC, 1999).

Research also indicates that structural variables seem to impact process elements. Programs that charge higher tuition usually have higher quality programs (Helbrun, 1995). Children's language and social/emotional

development improve in small groups with high teacher to child ratios (MA DOE, 1999). The more teachers are paid, the more training they receive, and the longer they stay employed by the same early learning program, the better the outcomes are for children (MA DOE, 1999). The differences in structural variables (regulations/standards) for private preschool and public school sheds light on the disparity between the process elements (quality) in the two environments.

A study published in *Early Childhood Research Quarterly* (14 N.3, 1999) entitled "Child Care Licensing Regulations & Child Care Quality in Four States" compared regulations for protecting the child versus regulations for enhancing child development. They found that expectations for health and safety practices were frequently described in precise language, while expectations for child development were either vague or not included. This research raises the question of whether regulations should explicitly address process elements as well as structural elements.

According to the national survey "Quality Practices & Barriers in Early Childhood Settings" (NCEDL, 1999), preschool teachers do engage in practices that the teachers themselves endorse. The problem cited, however, was that teachers did not uniformly engage in researched-based practices which provide best outcomes for children, such as child-centered vs. teacher directed activities. The study concluded that changing teachers' knowledge and values might be central to improving practice. If so, then clear regulatory language describing expectations for process elements would be beneficial.

Components of Professional Practice for Early Childhood Teachers

Descriptors for each process element are provided in the form of "Components of Professional Practice" by Jalongo & Isenberg (2000) in the text Exploring Your Role. According to Jalongo & Isenberg, professional practice in planning and preparation requires the early childhood teacher to demonstrate knowledge of content and pedagogy, demonstrate knowledge of students, select instructional goals, demonstrate knowledge of resources, and design coherent instruction. In the classroom environment the accomplished teacher creates an environment of respect and rapport, establishes a culture for learning, manages classroom procedures, manages student behavior and organizes physical space. When engaged in instruction, teachers must communicate clearly and accurately, use questions and discussion techniques effectively, engage students in learning, provide feedback to learners, and demonstrate flexibility and responsiveness. Professional responsibilities include reflecting on teaching, maintaining accurate records, communicating with families, contributing to the school and district, professional growth and development, and professional behavior. These components of professional practice are consistent with the foundation for "accomplished teachers" as established by the National Board; however, they are not fostered by the course offerings of many colleges.

The National Board has developed standards for the content and proficiencies which accomplished early childhood teachers should know and be able to perform (NBC, 00). These standards gauge a teacher's ability to structure his/her time, establish rules and routines, and organize space and materials in ways that promote children's social

development, mutual respect and emerging independence. They also require teachers to nurture children's growth and learning in the content areas of social studies, math, art, science, and literacy development. Additionally, teachers must demonstrate their skills in observing children, constructing material, using assessment information and analyzing children's work. These standards are consistent with those of the National Association for the Education of Young Children (NAEYC, 1999) and they provide a guide for assessing the content of early learning teacher preparatory programs.

The importance of transitions for children and families was not specifically addressed by Jalongo & Isenberg or the National Board; however, smooth transitions are another essential component of quality early learning programs. The large majority of children in the U.S. attend some kind of half-day or full-day preschool, day care or Head Start program before entering kindergarten (Donegan et. al, 1994), and must be able to move between educational environments without undue upset. Research has demonstrated that a collaborative approach to referrals and transitions for children and families supports success in public school (SERVE, 1995). Connecticut's Department of Education (1988) identified four elements crucial to successful transitions for young children: program continuity, communication, preparing the children and involving the parents. The four process elements identified by Connecticut in 1988 are consistent with the detailed strategies researchers at SERVE identified in 1995 to facilitate successful transitions. Though research has highlighted the process of transition as vital, college course descriptions and the NAEYC accreditation standards (1999) do not explicitly address the need to link earlier experiences to subsequent steps in children's education.

The fact that 48% of all children have a moderate or serious problem entering kindergarten (NCEDL, 1998) indicates that training in collaborative transitions should be included in the interdisciplinary preparation of early childhood student teachers.

Early Experiences and Brain Development

Yet another area of research which must be included in the creation of early learning programs is our ever-growing knowledge of how the brain works. The physiology of the brain provides an excellent guide to determine appropriate teaching models in both the early childhood classroom and in teacher education programs. At a time when standards for teaching in daycare seem minimal, research on the brain demonstrates the crucial nature of early experiences. The paper Learning How to Use the Brain, presented at the "Brain Development in Young Children: New Frontiers for Research, Policy and Practice" Conference (Chicago, June 13, 1996) provides highlights of this research.

- The last five years have taught scientists more about the brain than the preceding century. With new imaging devices, such as the PET Scan- [Positron Emission Tomography], scientists can now observe the living, working brain; we now know beyond question that the brain physically rewires itself in response to its environment.

- During critical developmental periods, brain cells which are not stimulated may shrivel and die. For example, if stimulation is not provided to infants [such as talk, toys and physical activity] during the first three years of life, it can lead to the stunting of the brain.

- Genes and the environment play an equally important role in brain development. Mild retardation is linked to a lack of environmental stimulation necessary for the brain to develop to its maximum capacity; it is estimated that half of all cases of mild retardation could be prevented by early intervention.

- In addition to a lack of stimulation, too much exposure to the wrong kind of stimulation can also have a damaging effect. For example, when a child is in a hostile environment his/her brain will self-protect by rewiring itself to create the chemical pathways of aggression. And hostile environments are on the rise; in the past 25 years the rates of violent crime, depression, suicide and drug and alcohol abuse have doubled.

- At birth infants have approximately 100-billion brain cells which must create connections in order for the brain to function. Synapses [the connections between neurons] in the human brain allow brain cells to communicate with one another and are vital to the five senses and learning abilities (Alikhan, 1998).

- From the age of 4 until about 10, the brain cells are vigorously learning which connections to keep and which to discard. It is said that this is the perfect age to learn new languages and how to play musical instruments.

- A child's exposure to language builds brain connections and meanings, literally beginning from birth (Gopnik, Meltzoff & Kuhl, 1999).

This and other research on brain development show that optimal development and learning in the early years provide life-long benefits. Brain research can also be a guide for selecting appropriate teaching models both in the early childhood classroom and in teacher preparatory programs.

METHODOLOGY

Definitions

An early childhood program is any group program in a center, school, or other facility which serves children from birth through age 8. These include childcare centers (daycare and nursery school), family childcare homes, private and public preschools, kindergartens, and primary-grade schools (Bredekamp & Copple, Eds. 1996).

Curriculum is an organized framework that delineates the content that children are to learn, the process through which children achieve identified curricular goals, what teachers do to help children achieve these goals, and the context in which teaching and learning occur (Bredekamp & Rosegrant, Eds. 1992, 1995).

Guidelines are standards or principles by which to make a judgment or determine a course of action (Bredekamp & Rosegrant, Eds. 1995).

Certification is required in Massachusetts for teachers who want to work in public school. Teachers are certified for particular grade levels and subject areas through the MA Department of Education. There are several levels of certification; all require renewal every five years, as well as evidence of professional development (MA DOE, 2000). Some states refer to this process as "Teacher licensing".

Early childhood daycare teachers in Massachusetts have three levels of certification: Assistant Teacher, Teacher, and Lead Teacher. The minimum educational requirements for these positions are, respectively: no course work, one course in child growth and development, and 4 courses in early childhood education [including one course in child growth and development] (OCCS, 1999). The term teacher, used in the context of this research refers to the level of lead teacher. Currently, it is a life-time certification that does not require renewal.

Innovation signifies new curriculum or teaching practices that represent a significant departure from the dominant model (Gelber, 1999).

Dominant model refers to the required course of study for the degree or certificate. It is assumed that the dominant model reflects the current thinking of educators as to what competent students need to know upon completion of their studies (Gelber, 1999).

Research Design

Research Questions	
1.	Do Early childhood teacher preparatory programs in 2- and 4- year institutions of higher education support those elements which research has deemed essential for excellence? If not, which elements are supported & which are not? Where are the gaps?
2.	What are the characteristics of promising models in Massachusetts?
4 Elements of Methodology; Tools to Answer the Questions	
Tool	**Areas of Identification**
Survey	Who are the students? What curricula are they taught? What forms of pedagogy are used to teach them? What resources are used in the process?
Chi-Square Analysis	Who are the high, medium, and low innovators? How are they different? Which elements are supported and which are not? Where are the gaps?
Case Studies	What is the process by which high innovation takes place? What are the characteristics of promising models in Massachusetts?
Set of Hypotheses	Theories identifying conditions which promote innovation in curricula as a framework for future research.

Figure 5

This proposed research has a two-phase design. Phase I will be a survey that will be mailed to the 22 four-year and the 20 two-year Massachusetts institutions which offer degrees in early childhood education (some institutions offer both a 2- and 4- year degree option). I will develop the questionnaire, with input from various members of the Department of Education's Early Childhood Advisory Council, the Office of Child Care Services Region III Early Childhood Council, and the Federation

for Children With Special Needs. To avoid collecting biased data I will not seek formal endorsement of the research from any of the aforementioned agencies. Rather, I will acknowledge input from my colleagues in the body of the completed research. Information on survey recipients and address has been obtained from the National Directory of Early Childhood Teacher Preparation Institutions (CPR, 2000) and U.S.News on-line (see Appendix).

The goal of the survey is to find out *who* the innovators are by examining *how* education reform has impacted teacher preparatory programs in both 2- and 4-year colleges. Specifically, I will examine practices based on the elements identified by New Teachers for a New Century as essential to excellence in teacher preparation. **Do early childhood teacher preparatory programs support those elements which research had deemed essential for excellence?** I will explore this question by examining: Who are the students? What curricula are they taught? What pedagogical methods are used to teach them? And what are the resources used in the process?

Current practices are developed in response to state teacher tests, changing admission standards and curriculum frameworks for PK-12. **Have they been designed to narrow the gap between theory and practice? Why are some colleges successful innovators and others are not?** Once the initial survey has been designed, it will be piloted in sample 2- and 4-year teacher preparatory programs and be revised accordingly.

Phase II of the research will be qualitative case studies of institutions identified by the questionnaire as having early childhood programs which demonstrate best practices both at the 2-year and 4-year level. This phase will include qualitative interviews with key contacts in the identified early childhood departments. The list of potential interviewees includes: Chair of the Education Department, Admissions Director, Coordinator of Early Childhood Education, and Faculty members in Early Childhood Education (infant, toddler and preschool focus). Pertinent documents such as college course catalogue, mission statement, core curriculum requirements, teacher test pass rate, student characteristics, program accreditation, joint admission policy and procedures, and documents pertaining to faculty development goals will also be collected. The purpose of this phase is to identify specific measures that 2- and 4- year Massachusetts' institutions of higher learning can take to implement the elements essential for excellence in early childhood teacher preparation.

Data Analysis

Based on the data collected through the survey, I will evaluate institutions based on their practices in the areas of: interdisciplinary preparation of students, recruitment and graduation of diverse students, faculty resources, institutional supports to promote and sustain innovation, and program assessment tools. I will use Statistical Package for the Social Sciences software for this task and for doing a Chi-Square Analysis that will identify who the high, medium and low innovators are, how they are different, and where the gaps are. I hope to use the National Center for Education Statistics (NCES) Early

Childhood Kindergarten Longitudinal database. [I have applied for an August 2000 training session at NCES in Washington, D.C., and will know in July if I may attend.] Identifying significant innovators will help to refine and focus qualitative interviews with key informants, which will contribute to the case studies.

Upon completion of the quantitative and qualitative data collection, the final analysis will include construction of a set of hypotheses about innovation within early childhood teacher preparatory schools. Analysis goals are to identify innovations which promote best practices, and to offer a set of hypotheses for future research.

Limitations

Many early childhood teachers take courses at random, based on their professional development needs, and are not enrolled students at any particular college. There are also many non-degree programs and other alternative training providers which offer early childhood courses that satisfy state daycare teaching requirements. None of these programs will be included in the samples drawn for this study.

Other limitations include the voluntary nature of replies to the questionnaire, both in terms of numbers and data supplied, as well as the mechanics of the research, such as the availability of key subjects to be interviewed, the amount of time they are willing to invest, the candor of their responses, and the availability of relevant institutional documents.

Significance of the Study

Given the vast numbers of children who attend daycare before entering kindergarten, the financial burden imposed on parents and all taxpayers for education, and federal and state mandates for education reform, it is important to identify effective early childhood teacher preparatory models in our current system of higher education.

Even more significant than these external factors is research indicating the crucial nature of early childhood experiences for later learning and success. To ensure that more children have access to research-based preschool programs, early childhood teacher education must be founded on research as well. If the current demand for accountability is sustained, it is also imperative that successful models are identified as a benchmark for students studying early childhood education and for the institutions which offer them. Hopefully, the hypotheses and innovative models provided by this study will eventually lead to improved early childhood teacher preparation, and therefore, better early education for children.

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Massachusetts 4- year institutions offering degrees in early childhood education (22)

American International College
Education
1000 State Street
Springfield, MA 01109
Contact: Dr. Ann Courtney, Director
Phone: 413-747-6302
ECE Coursework: preschool, school-age, disabilities

Anna Maria College
50 Sunset Lane
Paxton, MA 01612
Contact: Dr. Doris Brodeur, Director
Phone: 508-849-3300

Atlantic Union College
Education/Psychology
338 Main Street, P.O. Box 1000
South Lancaster, MA 01561
Contact: Ian Bothwell, Chair
Phone: 978-368-2438
Email: IBOTHWELL@ATLANTICUC.EDU
ECE Program: 2 and 4-year
ECE Coursework: infant/toddler, preschool, school-age, disabilities

Bay Path College
Education 588 Longmeadow Street
Longmeadow, MA 01106
Contact: Estelle Leavitt, Chair
Phone: 413-565-1227
Email: ELEAVITT@BAYPATH.EDU
ECE Program: 2 and 4-year
ECE Coursework: preschool, school-age, disabilities

Becker College
Early Childhood Education
61 Sever Street
Worcester, MA 01609
Contact: Debra Pallato-Fontaine, Coordinator
Phone: 508-791-9241x370
Email: DPFONTINE@GO.BECKER.EDU
ECE Program: 2 and 4-year
ECE Coursework: infant/toddler, preschool, school-age, disabilities

Boston College
Education
201 Champion Hall
Chestnut Hill, MA 02467
Contact: Beth Casey, professor
Phone: 617-552-4232
Email: CASEY@BC.EDU
ECE Coursework: preschool, school-age, disabilities

Boston University
Curriculum & Teaching
605 Commonwealth Avenue
Boston, MA 02115
Contact: Jane Lannak, Coordinator, Early Childhood Programs
Phone: 617-353-7258
Email: JLNNAK@BU.EDU
ECE Coursework: infant/toddler, preschool, school-age, disabilities

Brandeis University
Education
MS #22
Waltham, MA 02454
Contact: Peter Witt, Director
Email: WITT@BRANDEIS.EDU
ECE Coursework: preschool, school-age, disabilities

Bridgewater State College
Elementary & Early Childhood Education
Hart Hall
Bridgewater, MA 02325
Contact: Margery Kranyik, Professor
Phone: 508-697-1200
Email: MKRANYIK@BRIDGEW.EDU
ECE Coursework: infant/toddler, preschool, school-age, disabilities

Curry College
Education
1071 Blue Hill Ave
Milton, MA 02186
Contact: Deborah Miles, Coordinator
Phone: 617-333-2112
ECE Coursework: infant/toddler, preschool, school-age, disabilities

4- year institutions continued

Elms College
Education
291 Springfield Street
Chicopee, MA 01013
Contact: Janet Stetson, Professor
Phone: 413-594-2761x290
Email: JSTETSON@JAVANET.COM
ECE Coursework: infant/toddler, preschool, school-age, disabilities, family child care

Endicott College
Education
376 Hale Street
Beverly, MA 01915
Contact: Marsha McDonough, Associate Dean
Phone: 978-232-2322
Email: MMCDONOU@ENDICOTT.EDU
ECE Coursework: preschool, school-age, disabilities, family child care

Fitchburg State College
160 Pearl Street
Fitchburg, MA 01420
Phone: 978-345-2151
Chair: Ronald Colbert

Framingham State College
Education
100 State Street
Framingham, MA 01701
Contact: Jeanne Canelli, Assistant Professor
Phone: 508-626-4739
Email: JCCDL@AOL.COM
ECE Coursework: preschool, school-age, disabilities

Gordon College
Early Childhood Education
255 Grapevine Road
Wenham, MA 01984
Contact: Keith Pentz, Professor
Phone: 978-927-2306
Email: KPENTZ@FAITH.GORDONC.EDU
ECE Coursework: infant/toddler, preschool, school-age, disabilities, home visitor, family child care

4- year institutions continued

Hebrew College
Graduate School of Education
43 Hawes Street
Brookline, M 02146
Contact: Ina Regosin, Director
Phone: 617-965-7350x243
Email: IREGOSIN@LYNX.DAC.NWU.WSU
ECE Coursework: preschool, school-age, disabilities

Lasell College
Education
1844 Commonwealth Ave
Newton, MA 02466
Contact: Suzanne St. Germain, Chair
Phone: 67-243-2206
Email: SSTGERMAIN@LASELL.EDU
ECE Coursework: infant/toddler, preschool, school-age, disabilities

Lesley College
Education
29 Everett Street
Cambridge, M 02138
Contact: Joanne Szamreta, Associate professor
Phone: 617-349-8224
Email: SZAMRETA@MAIL.EDU
ECE Coursework: infant/toddler, preschool, school-age, disabilities, home visitor

Northeastern University
360 Huntington Ave
Boston, MA 02115
Phone: 617-373-2000

Simmons College
Education & Human Services
300 The Fenway
Boston, MA 02115
Contact: Dr. Tracey L. Hurd, Assistant Professor
Phone: 617-521-2591
Email: HURDT@SIMMONS.EDU
ECE Coursework: preschool, school-age, disabilities

Westfield State College
Western Ave
Westfield, MA 01086
Contact: James Martin-Rehrmann, Chair
Phone: 413-572-5313

4- year institutions continued

Worcester State College
486 Chandler Street
Worcester, MA 0602
Contact: Carol Donnelly, Assistant Professor
Phone: 508-929-8667
Email: CDONNELLY@WORCESTER.EDU
ECE Coursework: infant/toddler, preschool, school-age, disabilities

4- year institutions end

Massachusetts 2- year institutions offering degrees in early childhood education (20)

Aquinas College
15 Walnut Park
Newton, MA 02458
Contact: Jeanne Ibach, Chair
Phone: 617-969-4400
ECE Coursework: infant/toddler, preschool, school-age, disabilities family child care, CDA training

Atlantic Union College
Education/Psychology
338 Main Street, P.O. Box 1000
South Lancaster, MA 01561
Contact: Ian Bothwell, Chair
Phone: 978-368-2438
Email: IBOTHWELL@ATLANTICUC.EDU
ECE Program: 2 and 4-year
ECE Coursework: infant/toddler, preschool, school-age, disabilities

Bay Path College
Education 588 Longmeadow Street
Longmeadow, MA 01106
Contact: Estelle Leavitt, Chair
Phone: 413-565-1227
Email: ELEAVITT@BAYPATH.EDU
ECE Program: 2 and 4-year
ECE Coursework: preschool, school-age, disabilities

Bay State College
122 Commonwealth Avenue
Boston, MA 02116
Contact: Linda Small, Program Director
Phone: 617-450-8325
Email: LSMALL@BAYSTATE.EDU
ECE Course work: infant/toddler, preschool, disabilities, family child care

Becker College
Early Childhood Education
61 Sever Street
Worcester, MA 01609
Contact: Debra Pallato-Fontaine, Coordinator
Phone: 508-791-9241x370
Email: DPFONTINE@GO.BECKER.EDU
ECE Program: 2 and 4-year
ECE Coursework: infant/toddler, preschool, school-age, disabilities

Berkshire Community College
Early Childhood Education Program
1350 West Street
Pittsfield, MA 01201-5786
Contact: Flavia Mastellone, Program Director
Phone: 413-499-4660x585
Email: FMASTELLONE@CC.BERKSHIRE.ORG
ECE Course work: infant/toddler, preschool, disabilities, CDA training

Bristol Community College
Child Care
777 Elsbree Street
Fall River, MA 02720
Contact: Leonard Goucher, Program Director
Phone: 508-678-2811x2147
ECE Coursework: infant/toddler, preschool, school-age, disabilities

Cape Cod Community College
Early Childhood Education/Social Science
2240 Iyanough Road
West Barnstable, MA 02668
Contact: Deborah Murphy, Coordinator
Phone: 508-362-2131
Email: DMURPHY@CPECOD.MASS.EDU
ECE Coursework: infant/toddler, preschool, school-age, disabilities

Dean College
Child Studies/Education
99 Main Street
Franklin, MA 02081
Contact: Susan Rich
Phone: 508-541-1756
Email: SRICH@DEAN.EDU
ECE Coursework: infant/toddler, preschool, disabilities, family child care

2- year institutions continued

Eastern Nazarene College
Education
23 E Elm Ave
Quincy, MA 02170
Contact: Beverly Cawthorne, Associate Professor
Phone: 617-745-3529
ECE Coursework: infant/toddler, preschool, school-age, disabilities

Fisher College
Health & Human Services
118 Beacon Street
Boston, MA 02116
Contact: Prudence VanWinkle
Title: Program Director
Phone: 617-236-8839
Email: PVANWINKLE@FISHER.EDU
ECE Coursework: infant/toddler, preschool

Greenfield Community College
Education
1 College Drive
Greenfield, MA 01301
Contact: Nancy Winter, Coordinator
Phone: 413-775-1134
Email: WINTER@CMSQCC.MASS.EDU
ECE Coursework: infant/toddler, preschool, disabilities, family child care

Massachusetts Bay Community College
Early Childhood Education
19 Flagg Drive
Framingham, M 01702
Contact: Dr. Phyllis Walt, Chair
Phone: 508-270-4294
Email: WLTPHY@MBCC.MASS.EDU

Massasoit Community College
Child Care Education
1 Massasoit Boulevard
Brockton, MA 02302
Contact: Nancy Ryan, Chair
Phone: 508-588-9100
Email: NRYN@MASSASOIT.MASS.EDU
ECE Course work: infant/toddler, preschool, disabilities

2- year institutions continued

Middlesex Community College
33 Kearney Square
Bedford, MA
Contact: Sandra Regan, M.Ed.
Phone: 978-656-3198
Email: REGANS@MIDDLESEX.CC.MA.US

Mount Wachusett Community College
444 Green Street
Gardner, MA 01440
Contact: Dr. Roseanne Morel, Chair
Phone: 978-632-6600x129
Email: R_MOREL@MWCC.MASS.EDU
ECE Coursework: infant/toddler, preschool, school-age, disabilities, family child care

North Shore Community College
300 Broad Street
Lynn, MA 01901
Contact: Jan McClanahan, Coordinator
Phone: 781-593-6722x6672

Northern Essex Community College
Elliott Way
Haverhill, MA 01830
Contact: Judith Tye, Professor
Phone: 978-556-3369
Email: JTYE@NSCC.MASS.EDU
ECE Coursework: infant/toddler, preschool, school-age, disabilities

Quinsigamond Community College
670 West Boylston Street
Worcester, MA 01606
Contact: Kathy Wilkinson, ECE Coordinator
Phone: 508-854-4283
Email: KATHYW@QCC.MASS.EDU

Springfield Technical Community College
One Armory Square
Springfield, MA 01105
Contact: Sally D. Curtis, Chair
Phone: 413-755-4610
Email: SCURTIS@STCC.MASS.EDU
ECE Coursework: infant/toddler, preschool, school-age, disabilities, family childcare

2- year institutions end